Fig. 1

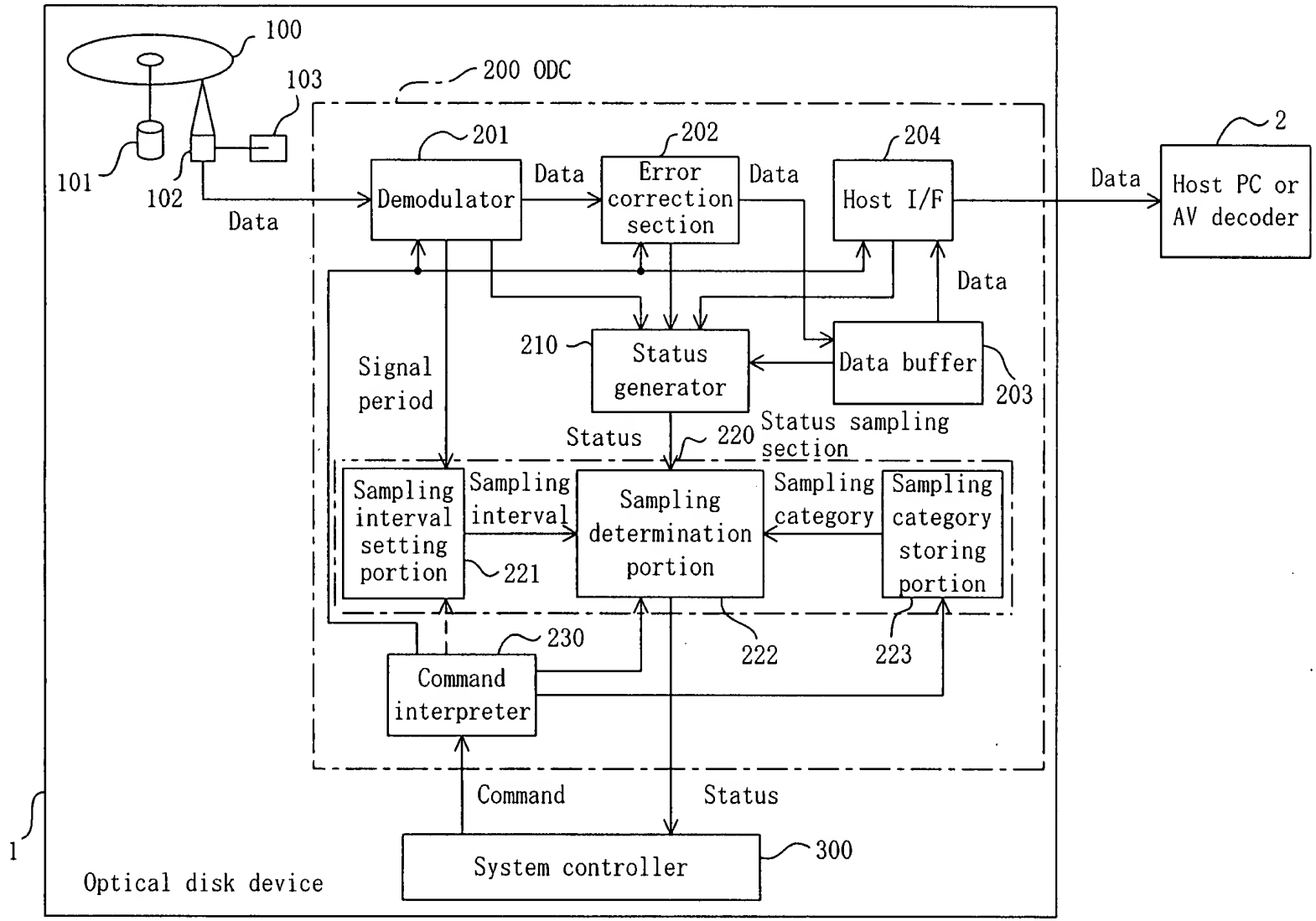

100
103
200 ODC
201
202
204
2
101
102
Data
Demodulator
Data
Error correction section
Data
Host I/F
Data
Host PC or AV decoder
Data
210
Status generator
Data buffer
203
Signal period
Status
220
Status sampling section
Sampling interval setting portion
221
Sampling interval
Sampling determination portion
Sampling category
Sampling category storing portion
222
223
230
Command interpreter
Command
Status
System controller
300
1
Optical disk device

Fig. 2

Command	Auxiliary information
READ	Sector to be read, Buffer page, Error upper limit, Execution stop condition, Correction condition
TRANSFER TO HOST	Buffer page, Sector ID
SAMPLING DESIGNATION	Start/end
SAMPLING STATUS DESIGNATION	Factor, "Sampling abort" or "Forced sampling"
ODC OPERATION MODE	For audio/video reproduction or for data read/write

Fig. 3a

For audio/video reproduction (DVD players, CD players)

Information category	Factor	Auxiliary information
Continued	Normal	
	Data category changed	Sector to be read, Category information
	Sector discontinued	
	Error rate increased	
	Correction not permitted	Sector to be read, Buffer page
Aborted due to error	Buffer full	Sector to be read, Buffer page
	Sector undetected	
Normally ended		

Fig. 3b

For data read/write (DVD-ROM drives, CD-ROM drives)

Information category	Factor	Auxiliary information
Continued	Normal	
	Data category changed	Sector to be read, Category information
	Sector discontinued	
	Error rate increased	
Aborted due to error	Correction not permitted	Sector to be read, Buffer page
	Buffer full	Sector to be read, Buffer page
	Sector undetected	
Normally ended		

Fig. 4

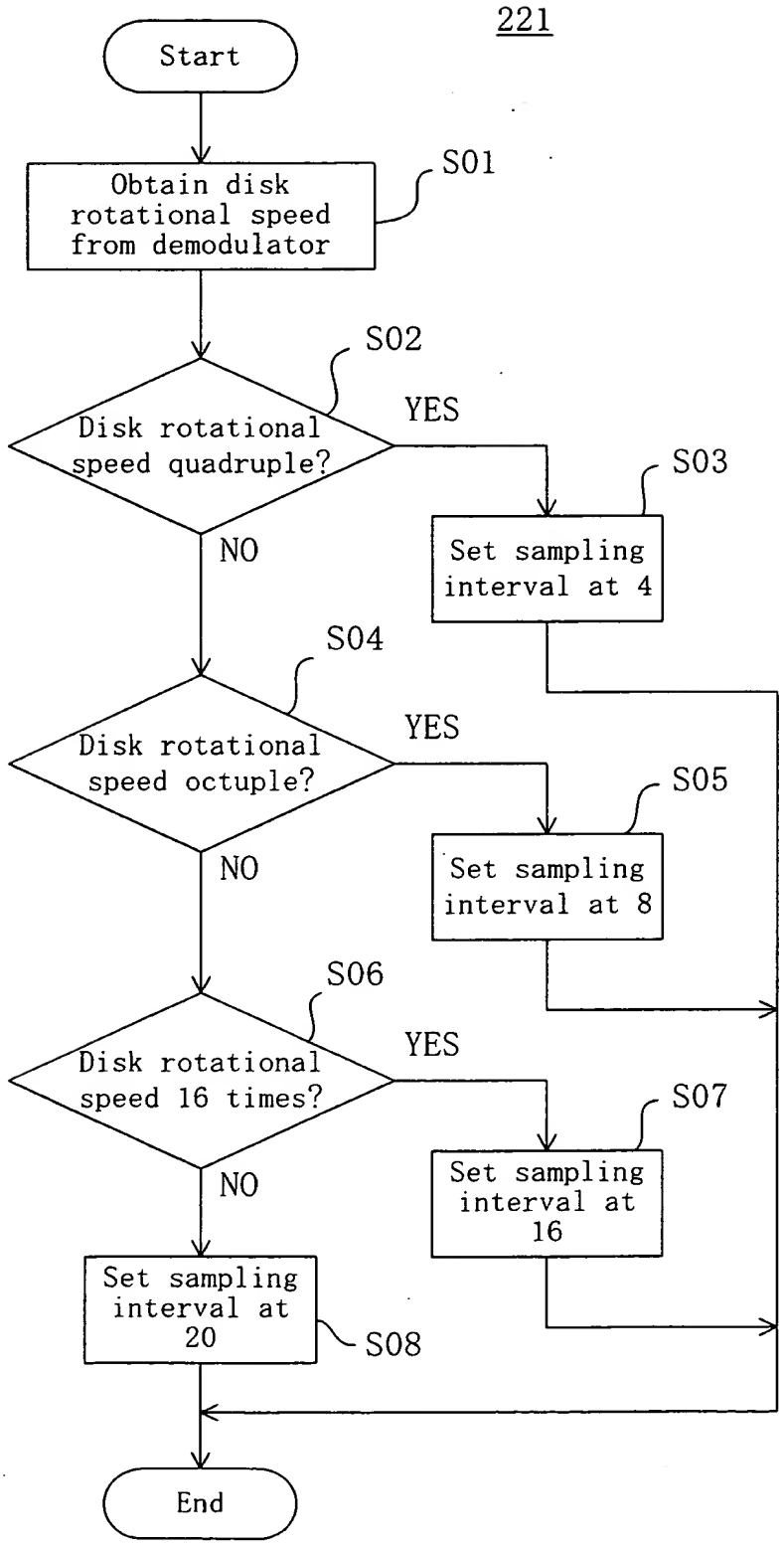

221
Start
Obtain disk rotational speed from demodulator
S01
Disk rotational speed quadruple?
S02
YES
Set sampling interval at 4
S03
NO
Disk rotational speed octuple?
S04
YES
Set sampling interval at 8
S05
NO
Disk rotational speed 16 times?
S06
YES
Set sampling interval at 16
S07
NO
Set sampling interval at 20
S08
End

Fig. 5

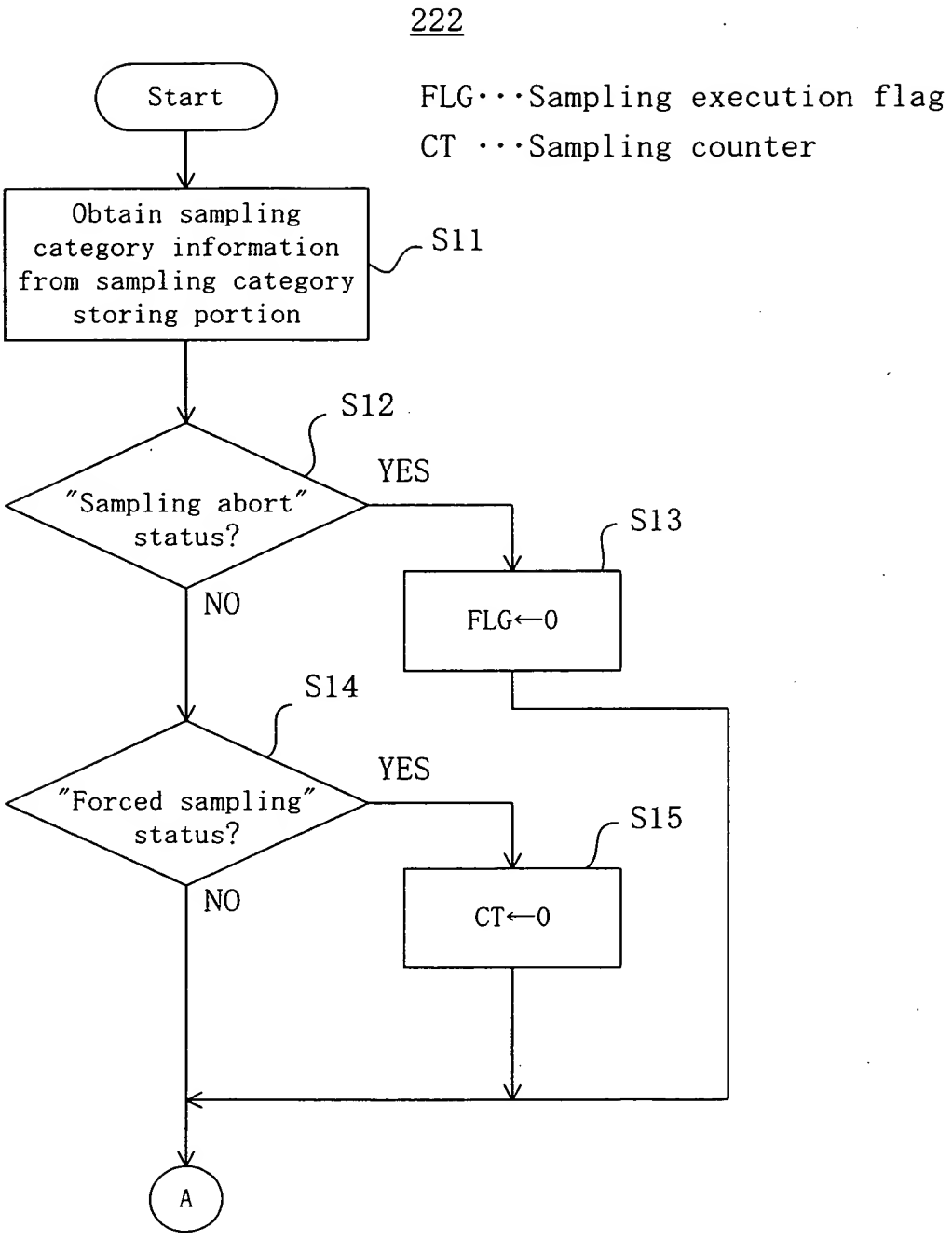

222
Start
FLG···Sampling execution flag
CT ···Sampling counter
Obtain sampling category information from sampling category storing portion
S11
S12
"Sampling abort" status?
YES
NO
S13
FLG←0
S14
"Forced sampling" status?
YES
NO
S15
CT←0
A

Fig. 6

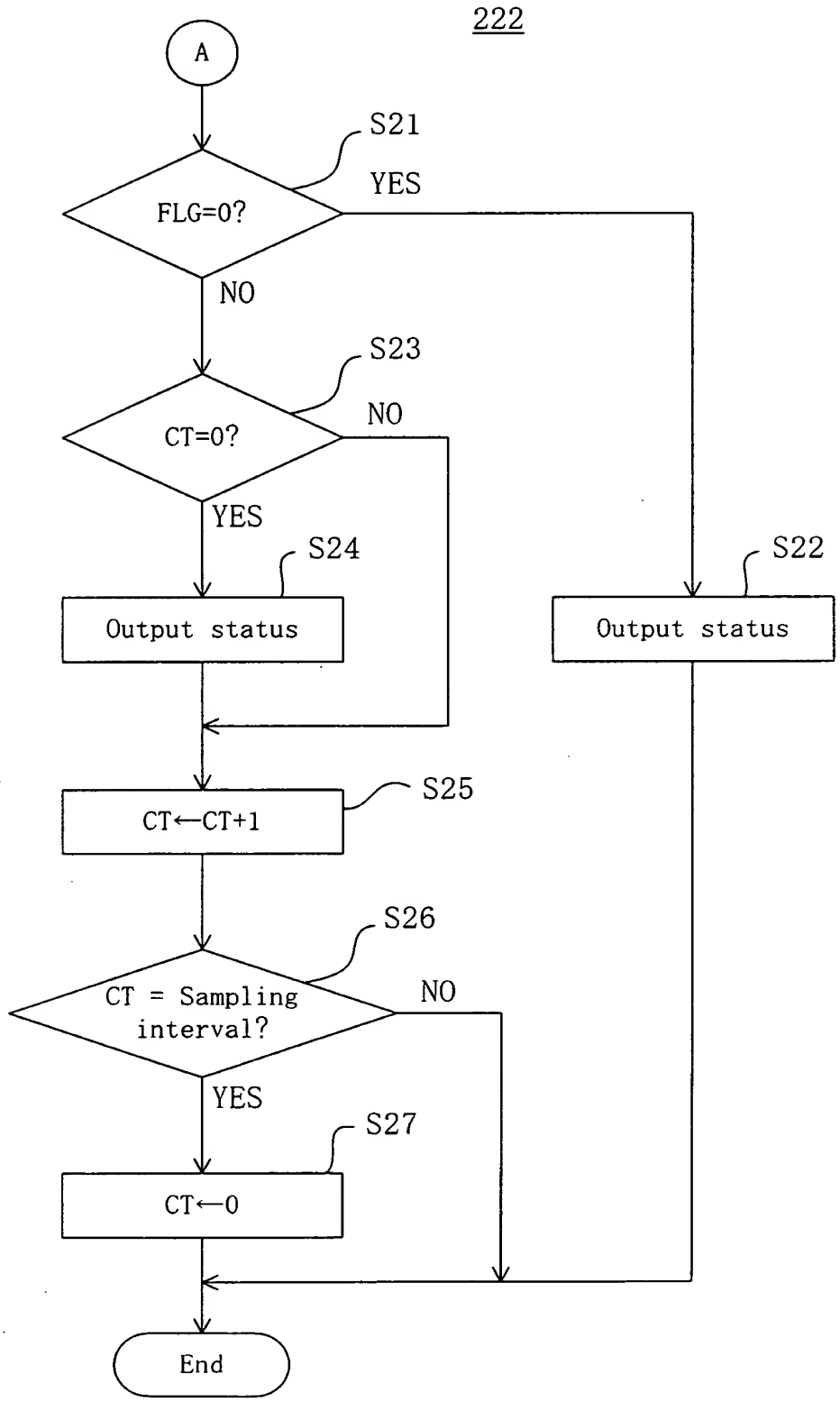

222
A
S21
FLG=0?
YES
NO
S23
CT=0?
NO
YES
S24
Output status
S22
Output status
S25
CT←CT+1
S26
CT = Sampling interval?
NO
YES
S27
CT←0
End

Fig. 7

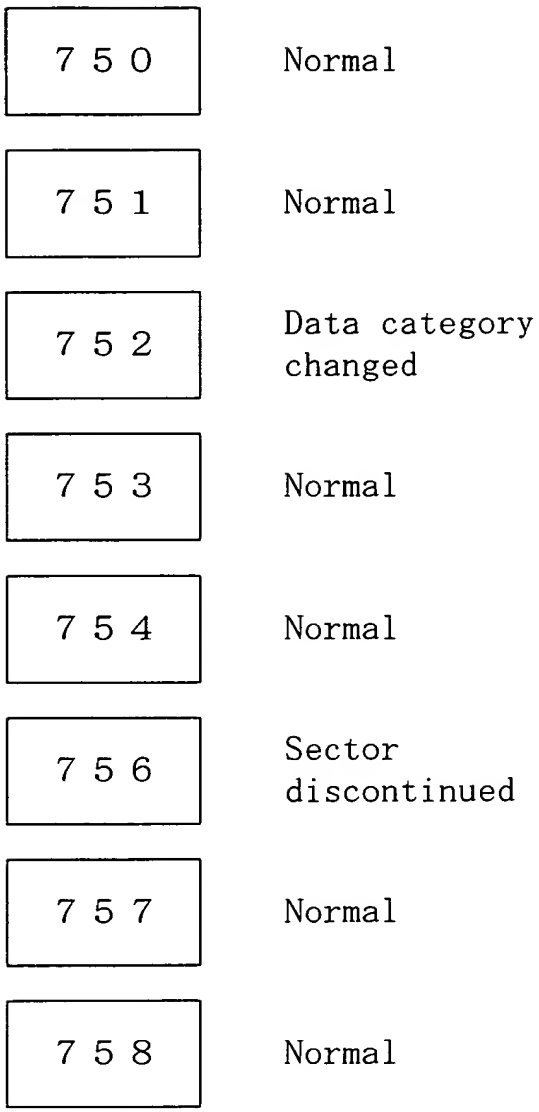

Sector
Factor
750
Normal
751
Normal
752
Data category changed
753
Normal
754
Normal
756
Sector discontinued
757
Normal
758
Normal

Fig. 8

223

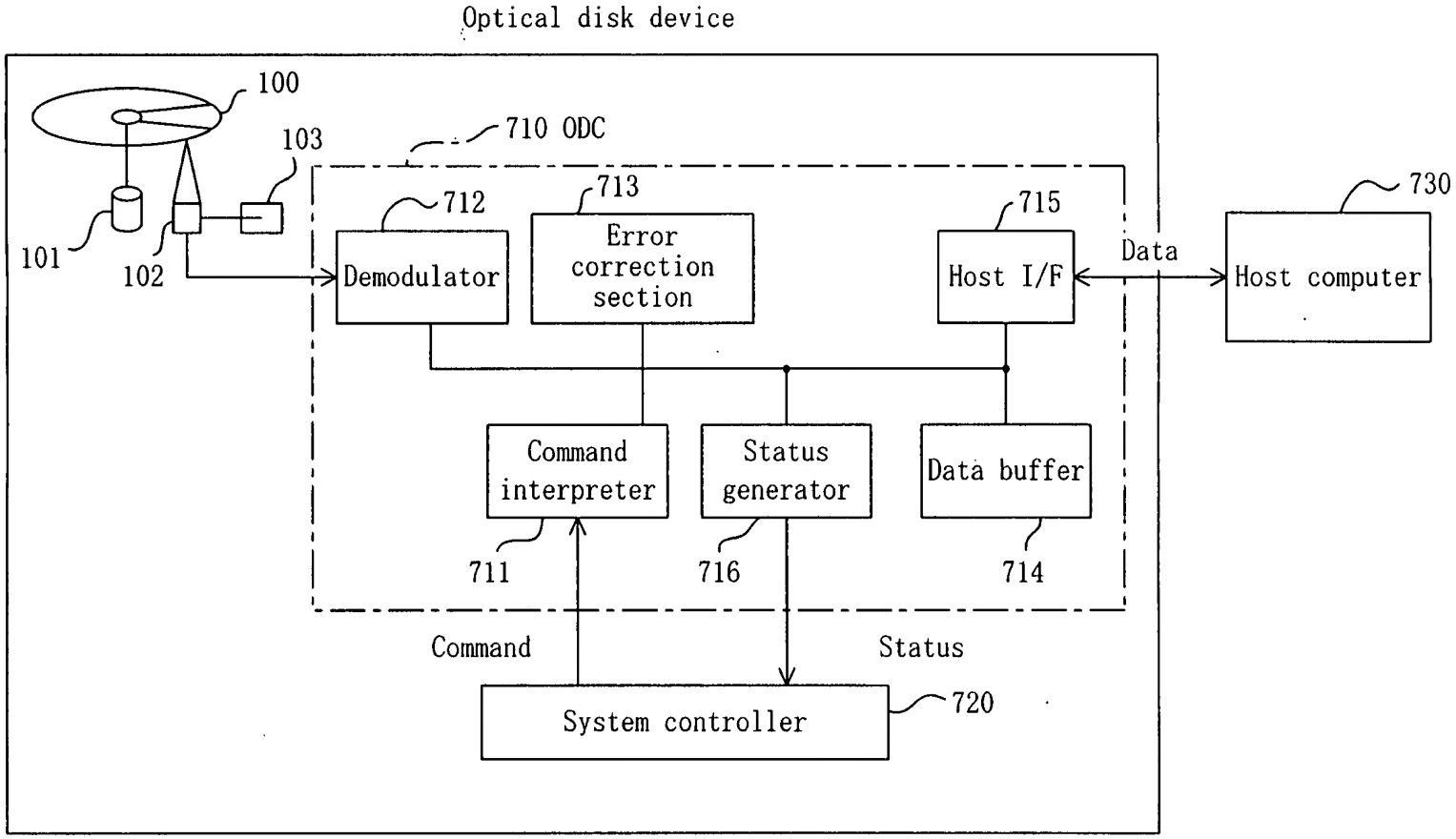
Factor	Designated sampling operation
Sector discontinued	Sampling abort
Error rate increased	Sampling target
Correction not permitted	Sampling target
Data category changed	Forced sampling
Others	Sampling target

US005859850A

Fig. 9

Information category	Factor	Auxiliary information	
Continued	Normal	750	10
Continued	Data category changed	752	12
Continued	Sector discontinued	756	15
Continued	Normal	757	16
Normally ended	Normal	758	17

Fig. 10
PRIOR ART



G.
SUBCLASS

Fig. 11
PRIOR ART

Information category	Factor	Auxiliary information <Sector ID>	Auxiliary information <Buffer page>
Continued	Normal	750	10
Continued	Normal	751	11
Continued	Data category changed	752	12
Continued	Normal	753	13
Continued	Normal	754	14
Continued	Sector discontinued	756	15
Continued	Normal	757	16
Normally ended	Normal	758	17

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